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No.

In the Supreme Court of the United States

OCTOBER TERM, 1996

UNITED STATES OF AMERICA, PETITIONER

v.

HUGHES AIRCRAFT COMPANY

ON PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

PETITION FOR A WRIT OF CERTIORARI

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14 pp

QUESTIONS PRESENTED

1. Whether the court of appeals applied an erroneous legal standard in determining that the accused spacecraft infringed respondent's patent under the doctrine of equivalents.

2. Whether the court of appeals erred in failing to defer to the trial court's findings of no infringement by equivalents.

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The Acting Solicitor General, on behalf of the United States, respectfully petitions for a writ of certiorari to review the judgment of the United States Court of Appeals for the Federal Circuit in this case.

OPINIONS BELOW

The opinion of the court of appeals (App. 1a-41a) is reported at 86 F.3d 1566. Earlier opinions in this case applying the doctrine of equivalents include an opinion of the court of appeals (App. 161a-197a), reported at 717 F.2d 1351, an opinion of the trial division of the Court of Claims (App. 198a-366a), reported at 215 U.S.P.Q. 787 (concerning the first 14 accused satellites), and an opinion of the Court of Federal Claims

(App. 42a-160a), reported at 29 Fed. Cl. 197 (concerning an additional 94 accused satellites).

JURISDICTION

The judgment of the court of appeals was entered on June 19, 1996. A petition for rehearing was denied on October 17, 1996. App. 367a-368a. On January 7, 1997, the Chief Justice extended the time within which to file a petition for a writ of certiorari to and including February 14, 1997. The jurisdiction of this Court is invoked under 28 U.S.C. 1254(1).

STATEMENT

1. This case involves a judgment of more than $100 million against the United States for infringement, under the doctrine of equivalents, of respondent's patent for an aspect of communications satellite technology. Respondent's patent, U.S. Patent No. 3,758,051 (the Williams patent), deals with technology for controlling the attitude of a spin-stabilized satellite. One specific application of the invention is in communications satellites. Long-distance communication satellites must be accurately placed and remain hovering over a given spot on the earth's surface with their antennae pointing toward the earth. App. 2a, 162a-163a, 253a-257a.

The Williams patent teaches transmission of the satellite's instantaneous spin angle (ISA) and orientation information in "real time" to a ground crew on earth. The ground crew computes control signals and transmits them to the satellite. The signals activate jets on the periphery of the satellite which tilt—or "precess"—the satellite into the desired position. Signal transmission from the ground must be synchronized with the satellite's spin cycle to ensure that the signals arrive at the satellite and activate

the jets at the correct point in the cycle to precess the satellite in the intended direction. Claim 1 (representative of the claims at issue) requires apparatus comprising (a) a body adapted to spin about an axis; (b) a fluid supply; (c) a valve connected to the supply; (d) a means of expelling the fluid, and the following disputed elements:

> e. means disposed on said body for providing an indication to a location external to said body of the instantaneous spin angle position of said body about said axis and the orientation of said axis with reference to a fixed external coordinate system;
>
> f. and means disposed on said body for receiving from said location control signals synchronized with said indication;
>
> g. said valve being coupled to said last-named means and responsive to said control signals for applying fluid to said fluid expulsion means in synchronism therewith for precessing said body to orient said axis in a predetermined desired relationship with said fixed external coordinate system.

App. 162a-163a, 165a-166a, 210a-211a.

Claim elements e, f and g were added during prosecution of the claim in the Patent and Trademark Office in order to distinguish prior art. A patent issued to McLean had disclosed a spin-stabilized, target-seeking space vehicle with a jet motor on its periphery that automatically precessed the vehicle to keep its spin axis pointing toward its target. McLean was self-guiding and did not rely on reference to a fixed external coordinate system or on communica-

tion with ground control. App. 165a-167a, 220a-243a, 264a-268a.

The United States' accused store-and-execute (S/E) attitude control systems are similar in several ways to the device claimed by Williams, but the S/E systems do not rely on ISA information sent to ground control for attitude control, nor do they receive spin-synchronized control signals from the ground. Rather, the S/E systems use an on-board computer to store ISA along with control signals from the ground; when the S/E system then receives an "execute" signal from the ground, it retrieves the stored information and computes the correct time to pulse the precession jet and maintain the satellite's position. App. 257a-259a. The control system of the S/E spacecraft eliminates the necessity of accounting for propagation delay—*i.e.*, the round-trip time required for the ISA to be received from the spacecraft and for the control signal to reach the spacecraft from the earth—because the S/E system calculates the exact instant at which the precession jet should be fired and stores it on board. That capability is essential in highly eliptical orbits, in which the propagation delay may vary widely.

2. Respondent sued the United States in 1973, alleging that the United States' S/E satellites infringed the Williams patent. Respondent conceded that the accused devices did not literally infringe, and instead based its claim on the doctrine of equivalents. App. 180a, 259a-260a, 262a.[1] Following a trial in 1976-1977, the court found that the S/E satellites did not

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[1] The court nonetheless briefly addressed the issue of literal infringement, and found no infringement. App. 257a-259a.

infringe under that doctrine. App. 198a-366a.[2] The trial court reasoned that, "[i]n order to find equivalence and thus infringement, the court must find that the accused structure performs substantially the same function in substantially the same way and for substantially the same purpose as set forth in the claims." App. 262a-263a (citing *Graver Tank & Mfg. Co.* v. *Linde Air Prods. Co.*, 339 U.S. 605, 607 (1950)).

The trial court held that "the claims of the Williams patent each call for at least two elements that cannot be found in any of the [S/E] systems," and that "the doctrine of equivalents does not operate to expand the scope of the claims to cover these systems." App. 253a. "Claim 1 of Williams requires (1) means for providing an indication of the ISA to an external location, and (2) means for pulsing the precession jet within a fixed time period after the receipt of the control signal. Neither of these two claimed elements can be shown in the structure of the accused [S/E satellites]." App. 258a; see also App. 266a-268a. The court found that, "even though the ground control itself is not an element of the [Williams patent] claim, the structure called for on the spinning body limits the claim to an attitude control system wherein a ground controller is needed to determine the ISA and use it to pulse the precession jet during the desired portion of the spin cycle." App. 257a. Moreover, in the S/E system, "there is no fixed time interval be-

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[2] The trial court initially held the patent invalid under 35 U.S.C. 102(b), in view of prior art, *Hughes Aircraft Co.* v. *United States*, 205 U.S.P.Q. 381 (Ct. Cl. Trial Div. 1979) (*Hughes IV*), but the Court of Claims reversed that holding on appeal, 640 F.2d 1193 (1980) (*Hughes V*).

tween the receipt of the execute signal and the firing of the precession jet." App. 261a-262a.

The two distinguishing elements, the trial court found, "were added in combination with a number of other elements to overcome the prior art cited," including the McLean spacecraft, thereby estopping respondent "from claiming that these elements are unnecessary." App. 266a-267a. "In view of the file wrapper estoppel in this case, the doctrine of equivalents affords protection only against alleged infringers who use obvious and exact equivalents of the elements of the claimed invention." App. 267a. The accused devices did not infringe because they contained no such "equivalent of [respondent's] means for providing an indication of the ISA to an external location." *Ibid.*[3]

3. A divided panel of the court of appeals affirmed in part and reversed in part. It upheld the validity of the patent, but, without holding that any of the trial court's factfinding was clearly erroneous, concluded that the S/E spacecraft infringed under the doctrine of equivalents. App. 192a. The court stated that the trial judge "did not apply the 'substantially the same function, in substantially the same way, to obtain the same result' guidance set forth in *Graver, supra*." App. 186a. According to the panel majority, the trial court should have determined equivalency by comparing "the claimed invention as a whole" with the "entirety of the accused S/E spacecraft." App. 187a.

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[3] The trial court found that other United States spacecraft, referred to as the "real time" systems, did infringe Claim 1 of the Williams patent. App. 268a-281a. The real time systems, unlike the S/E system, "had a circuit which permitted the precession jet valve to be directly operated by a signal from ground control." App. 273a; see App. 280a.

Comparing the claims "in their entirety" with "the entirety of the accused S/E spacecraft," the court found "striking overall similarities." *Ibid.* The court acknowledged that "[t]he S/E spacecraft uses sun pulses retained on-board as reference points to fire the jet," whereas "Williams uses sun pulses sent to ground as reference points to fire the jet." App. 191a. The court concluded, however, that "the government merely employed a modern day computer to do indirectly what Williams taught it to do directly," App. 188a, and that the differences between the claimed and accused devices thus did not suffice to avoid a finding of infringement by equivalents.

Judge Davis dissented from the finding of infringement by equivalents. App. 192a-197a (Davis, J., concurring in part and dissenting in part). He noted that "[t]he accused S/E spacecraft do not contain those elements which were expressly included to overcome prior art." App. 193a. Judge Davis's analysis focused not on the invention as a whole, but on the specific limitations in the claims of the Williams patent. Citing the trial judge's fact findings, he determined that the S/E spacecraft were not equivalent because they "perform[ed] a different function in a different way" from that described in the Williams patent claims. App. 195a; see also App. 196a. In Judge Davis's view, "[t]o find, as the majority does, in th[e] self-contained on-board computer an equivalent of the specific requirement for providing an indication of ISA to the ground (so that the ground can take account of ISA) is simply to obliterate and disregard this element of the claims." App. 194a. The Williams claims also require the ground controller "to use the ISA to pulse the precession jet during the desired portion of the spin cycle," and they "require means

for pulsing the precession jet within a fixed time period after the receipt of the control signal." App. 195a. Those attributes, too, are absent from the accused structures. *Ibid.* Judge Davis concluded that, "[e]ven if the standard of 'obvious and exact equivalents' is considered as too narrow, the accused devices here are definitely outside the equivalence principle of *Graver Tank*." *Ibid.* (citation omitted).

4. On remand, the trial judge conducted additional trial proceedings in 1989 and 1991. He first addressed outstanding liability issues. *Hughes Aircraft Co.* v. *United States*, 29 Fed. Cl. 197 (1993) (*Hughes IX*) (App. 42a-160a). He then awarded in excess of $125 million in royalties and delay compensation, more than $100 million of which is attributable to the S/E spacecraft. 31 Fed. Cl. 464 (1994) (*Hughes X*); 31 Fed. Cl. 481 (1994) (*Hughes XI*).

5. On appeal, the United States unsuccessfully sought reversal of the court's earlier holding of infringement by equivalents. A divided panel adhered under the law of the case doctrine to the court's earlier holding, App. 1a-41a, notwithstanding that the court's intervening en banc decision in *Pennwalt Corp.* v. *Durand-Wayland, Inc.*, 833 F.2d 931 (Fed. Cir. 1987), cert. denied, 485 U.S. 961, 1009 (1988), had rejected the "invention as a whole" approach to the doctrine of equivalents, see App. 18a-22a; and also notwithstanding this Court's grant of certiorari to review *Hilton Davis Chemical Co.* v. *Warner-Jenkinson Co.*, 62 F.3d 1512 (en banc), opinion supplemented, 64 F.3d 675 (Table), No. 93-1088, 1995 WL 496748 (Fed. Cir. 1995), cert. granted, 116 S. Ct. 1014

(1996) (No. 95-728 (argued Oct. 15, 1996)), regarding the validity and contours of the doctrine of equivalents, see App. 22a-24a.

Concurring in the panel decision, Judge Bryson stated that "[t]here is substantial force to [dissenting] Judge Nies's analysis of the doctrine of equivalents issue in this case," and that he "agree[s] with much of what she says." App. 24a. Based on law of the case, however, and in light of the opportunity for the United States to petition for a writ of certiorari, he concluded that the court should affirm. App. 24a-27a.

Judge Nies dissented. App. 28a-41a. In her view, Judge Davis's dissent from the earlier panel decision "made the type of analysis which must be made under current case law." App. 38a; see App. 31a-33a (quoting 717 F.2d 1351, 1367 (1983) (*Hughes VII*) (App. 195a-196a) (Davis, J., concurring in part and dissenting in part)).

REASONS FOR GRANTING THE PETITION

The petition presents the same issue that is presented in *Warner-Jenkinson Co.* v. *Hilton Davis Chemical Co.*, No. 95-728 (argued Oct. 15, 1996). In this case, as in the one already before the Court on plenary review, the court of appeals applied the doctrine of equivalents to find patent infringement. Under that doctrine, a device that does not literally infringe a patent claim, because its elements differ from the claim limitations, may nonetheless be held to infringe if the differences are insubstantial. The question presented in *Warner-Jenkinson* addresses the scope and validity of the doctrine of equivalents,

as well as whether equivalency is a fact question for a jury.[4]

More than $100 million of the judgment against the United States in this case is based upon the determination that its S/E spacecraft infringed respondent's patent under the doctrine of equivalents. Petitioner in *Warner-Jenkinson* has argued that this Court should not recognize any doctrine of equivalents, or should at least confine the doctrine's scope to equivalents disclosed in the patentee's specification. Brief for Petitioner at 38-50 (No. 95-728). The United States as *amicus curiae* in *Warner-Jenkinson* urged a narrow interpretation of the doctrine of equivalents, requiring that each element claimed in the patent, or a substitute that differs only insubstantially from the claimed element, be present in the accused device. Brief for the United States as Amicus Curiae at 16-20 (No. 95-728). Respondent in *Warner-Jenkinson*, arguing for a broader scope of equivalents, nonetheless recognized the validity of "prosecution history estoppel," precluding a patentee from "recapturing, through the doctrine of equivalents, matter which was intentionally surrendered during prosecution." Brief for Respondent at 33-34 (No. 95-728). Respondent in *Warner-Jenkinson* also urged the Court to hold that the equivalency should be treated as an issue of fact for the jury. *Id.* at 36-50.

Because the Court's decision in *Warner-Jenkinson* therefore will likely control—or at least will sub-

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[4] Although the United States is not subject to trial by jury, factual findings in its favor are entitled to deference under Federal Rule of Civil Procedure 52(a). If this Court holds that equivalency is a fact issue, then the court of appeals erred in substituting its own finding for that of the trial court.

stantially affect—the proper outcome of this case, we suggest that the Court hold this petition and dispose of it in light of the decision in *Warner-Jenkinson*.[5]

CONCLUSION

The petition for a writ of certiorari should be held pending the decision in *Warner-Jenkinson Co.* v. *Hilton Davis Chemical Co.*, No. 95-728, and then disposed of as is appropriate in light of the decision in that case.

Respectfully submitted.

WALTER DELLINGER
Acting Solicitor General

FEBRUARY 1997

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[5] An intervening decision of this Court, rather than of the court of appeals, obviously would provide a more compelling basis for that court's departure from the law of the case on remand. See App. 24a-26a (Bryson, J., concurring); App. 34a-37a (Nies, J., dissenting).